



From Second Sight

Argus II Retinal Prosthesis System

By Todd Leopold, CNN

In the old TV show “The Six Million Dollar Man,” astronaut Steve Austin was given bionic body parts after a horrific crash. Austin gets a new right arm, two replacement legs and a left eye with a zoom lens and night-vision capacities.

The [Argus II Retinal Prosthesis System](#) isn’t quite that advanced. But for the vision-impaired, the “bionic retina” is a huge leap forward.

The device, which was created by the California-based company Second Sight Medical Products, has been available in Europe since 2011. It received U.S. approval in February – the first visual prosthesis to do so. Second Sight CEO Robert Greenberg has devoted more than 20 years of his life to the invention.

The Argus II functions as an artificial retina, the light-sensitive part of the eye that collects image information and passes it along to the brain through the optic nerve. (It's often considered similar to the film in a camera.) People with a disease called retinitis pigmentosa (RP) – about 100,000 Americans -- lose the retina's light-sensitive cells. It's here that the Argus II takes over.

The device is surgically implanted in and on the eye, according to the Argus II website. It contains an antenna and some electronics, and connects to an exterior system consisting of eyeglasses, a video processing unit (VPU) and a connecting cable. The glasses contain a camera that sends image information through the VPU and to the implant.

The end result is some vision restoration. "The device may help adults with RP who have lost the ability to perceive shapes and movement to be more mobile and to perform day-to-day activities," the FDA's Dr. Jeffrey Shuren said in a news release.

The Argus II is available for adults 25 and over. It's currently available at a handful of American eye centers. Though it's expensive – about \$144,000 – Medicare announced it would cover the costs, and other insurers are expected to follow.

And it's just the beginning, Greenberg told the trade publication Medical Device and Diagnostic Industry.

"It's a computer-based system, so you can imagine in 10 years how much cell phone and computer technology has advanced," Greenberg adds.

Expect much more light to shine in the future.